AUTOSTART™

AUTOMATIC TRANSMISSION MULTI-CHANNEL REMOTE STARTER SYSTEM

AS-1412

Installation Guide

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Please note:

Button I is for the **LOCK/UNLOCK** functions.

Button II is for the **START/STOP** functions.

Buttons I & II (together) is for the **TRUNK** release function.

The LED is NOT included in this model.

Notice

The manufacturer will accept no responsibility for any electrical damage resulting from improper installation of the product, be that either damage to the vehicle itself or to the Unit. This Unit must be installed by a certified technician using all safety devices supplied. Please note that this guide has been written for properly trained Autostart technicians, a certain level of skill and knowledge is therefore assumed. Please review the Installation Guide carefully before beginning any work.

Warning

This Unit is designed for vehicles with an **automatic** Transmission only. Before installing the Unit, test that the vehicle does not start when the gear select lever is in the "Drive" position. If it starts in gear, install a manual-transmission car starter instead.

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Introduction

This Guidebook contains all information pertinent to the installation. Most (if not all) features are grouped in the User Guidebook and therefore, should you need information on a feature, you should refer to the User Guidebook.

Included in the Package

Before beginning the installation, please review the Installation Guide – especially the Wiring Diagram and the Programming Options.

It is very important that you familiarize yourself with the programming and operation of the system, even if you have already installed such a system in the past. There are many great new features that may be overlooked if you do not read the manual; this would prevent you from maximizing the potential of the Module.

Prior to the installation, make sure that all the hardware components required to install the system are in the box.

The following is a list of components included in the kit:

1 – Control Unit
1 – 2-button Remote Transmitter
1 – R-1 Interconnect Cable
1 – R-1 Receiver
1 – Hood Pin-switch
1 – 6 Pin Main Ignition Harness
1 – 5 Pin Secondary Harness
1 – 12 Pin Accessories Harness
1 – Warning label, User Guide

The plug-in valet and the 2-volt plug-in LED are not included with this model.

INDUSTRY CANADA USER NOTICE:
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication".

FCC USER NOTICE:
The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Before You Get *Started*…

♦ On vehicles with a manual Transmission, always ensure that all Doors will get the Unit out of Ready Mode. Switch the wire used so that it is triggered by all Doors.

♦ Make sure that the Parking Brake and Door Switch contacts work properly.

♦ When working on a vehicle, always leave a window open.

♦ **Never** leave the keys in the car. Leave them on a workbench with a window rolled down.

♦ Remove courtesy light fuse, if possible, to prevent battery drain.

♦ **The Programming Assistance Button (A.k.a. PAB.)**

The PAB is mounted on the side of the Unit. This push button mimics the Hood-Pin switch in order to avoid having to get out of the vehicle and pressing the Hood-Pin switch. **The PAB will work only when the Hood is up.**

♦ Inspect vehicle for any body damage or electrical problems

♦ **Always solder and tape all connections.**

♦ Keep the Transceiver away from other types of antennas (GPS/Onstar).

♦ Never install the control unit where it could interfere with normal operation or obstruct service technicians.

♦ Always use a grommet when running wires into the Engine compartment. Never run wires through bare or sharp metal.

♦ Do not disconnect the battery on vehicles equipped with air bags and anti-theft radios.

♦ Never ground the control unit to the vehicle's steering column.

♦ Make sure that all the switches and controls operate properly.

♦ Verify that the vehicle starts and idles properly.

♦ Make sure that all safety equipment is installed: the Valet Button (if installed), the Hood Switch and the warning label

♦ When wiring in parallel, make sure to isolate each connection with a diode in order to avoid feedback and possible damage.

Examples:

W**iring a clutch bypass and a Transponder Module to the Ground Out when Running wire:** At the junction point, where Ground Out when running "splits" and goes to each device, a diode is inserted on each of those lines.

Multiple or Separate Door pin Connections: When joining all door pins together to the Door pin input wire of the Module, each wire must be isolated with a diode to prevent feedback.

N.B.: The above examples reflect common situations where diodes are use to isolate. Please note that there are numerous other scenarios where diode isolation is required.

♦ Always make sure that any external relays or modules added to the Remote Starter Module are properly fused, and diode isolated.

♦ When testing the Shock Sensor, never test on glass with an opened hand, and never hit glass hard enough as to break it. When testing on Metal or plastic, make sure the testing does not result in damage to the vehicle (i.e.: dents, broken glass, damaged trims, etc.).

♦ Vehicles equipped with daytime running lights may not allow the installer to view certain programming results since the daytime running lights do no go out (**Note:** The Parking Light output relay in the Module gives two "*clicks"* per flash, 1 *click* for ON and 1 *click* for OFF).

♦ Parking Light flashes referred to in this manual refer to the Parking Light output of the Module and not that of the vehicle.

Harness Description

When connecting the Module, it is important to make sure that the connector with the Ground wire is connected first, before making the 12-volt connections. Should the Unit be powered up before being grounded, there could be serious damage to internal components of the Unit.
Be careful not to power up a Module before it is properly grounded. To avoid any accident, it is recommended to pull out the Fuses from their sockets before the installation, and to put them back during the very last steps.

6-Pin Main Ignition Harness

Wire		Description
A	**RED +12 V Battery**	Connect to the largest 12 V supply wire at the Ignition harness. Ensure that the OEM power wire is fused for more than 30 A. **NOTE:** certain new vehicles have no suitable 12 volts source at the **IGNITION** switch (the 12 Volt wire is too small to supply the necessary current). In this case, the fuse box, or the B+ connection on the battery is recommended.
B	**PURPLE (+) 30 A starter output**	Connect to the Starter wire of the vehicle (at the **IGNITION** switch). The source wire should have +12 V with the Ignition Key in the Crank position only.
C	**RED (+) 12 V Battery**	Connect to the largest 12 V supply wire at the Ignition harness. Ensure that the OEM power wire is fused for more than 30 A. **NOTE:** certain new vehicles have no suitable 12 volts source at the **IGNITION** switch (the 12 Volt wire is too small to supply the necessary current). In this case, the fuse box, or the B+ connection on the battery is recommended.
D	**YELLOW (+) 30 A ignition output**	Connect to Ignition wire of the vehicle. The source wire should have +12 V with the Ignition Key in the Ignition On (Run) and Crank positions. **Warning:** some vehicles have more than one **IGN** wire at the **IGNITION** switch for powering the heater blower motor. Use the 5th relay (pin F) and extra relays to power up any extra **IGN**. wires if necessary. **DO NOT JUMP WIRES** at the **IGNITION** switch, this will compromise the OEM electrical system.
E	**ORANGE (+) 30 A Accessories output**	This wire is for powering the heater blower motor. It is usually classed as an Acc. (no power in the **CRANK** position.) if it tests as an **IGNITION** (power in the crank pos.) then power it as an **IGNITION** (5th relay, or extra fuse). **Warning:** some vehicles have more than one **ACC** wire at the **IGNITION** switch for powering the heater blower motor. Use the 5th relay (pin F) and extra relays to power up any extra **ACC**. wires if necessary. **DO NOT JUMP WIRES** at the **IGNITION** switch, this will compromise the OEM electrical system.
F	**GREEN (+) 30 A 5th relay output**	This high-current output can be used to power a **2nd IGNITION** or a **2nd ACCESSORY** or a 2ND **STARTER WIRE**. See jumper settings on page 12 for correct output. Additional **IGNITIONS**, **ACCESSORIES**, or **STARTER WIRES** must use external relays. **DO NOT JUMP WIRES** at the **IGNITION** switch, this will compromise the OEM electrical system.

5-Pin Secondary Harness

Wire		Description
1	**BLACK (–) Chassis ground input**	This wire must be connected to bare, unpainted metal (the Chassis or true Body ground). It is preferable to use a factory ground bolt rather than a self-tapping screw. **Screws tend to get loose or rusted over time and can cause erratic problems.**
2	**PURPLE (AC) Tachometer input**	This wire tells the Module if the Engine is running or not. It requires at least 1.8 volts (AC) and 1.5 Hz (or faster) at idle. Common Tach references are: the negative side of an injector, the negative side of an Ignition Coil, Camshaft sensor, Crankshaft sensor or the Engine Control Module (ECM). **NOTE:** A Tach signal that is too low will cause the Module to "over crank" and a Tach signal that is too high will cause the Module to "under crank".
3	**GREY (-) Hood Switch input**	Connect this wire to the Hood Pin-switch supplied. This input will disable or shut down the Remote Starter when the Hood is opened. It is also used for programming and therefore it is essential that it is installed.
4	**ORANGE (+) Brake Switch input**	This wire must be connected to the Brake Light switch of the vehicle. The wire should be +12 V **only** while the Brake Pedal is pressed. This input will shut down the Remote Starter if the Brake Pedal is pressed. It is also used for programming and therefore it is essential that it is installed.
5	**YELLOW +12 V Parking Light output**	This wire provides a +12 V output (15 A max.) and must be connected to the Parking Light wire that tests +12 V when the Parking lights are **ON**. **Note:** Ensure that the voltage does not vary when the dimmer control switch is turned up or down. If this is the case, it is not the right wire. **There is a also a negative Parking Light output. Only one of these two different outputs needs to be connected.**

12-Pin Accessories Harness

Wire	Color	Function	Description
1	**BLUE**	**(–) AUX 3** (Trunk) **output**	500 mA negative output. This output can be used to control Trunk release (1-sec. pulse) or can be set to operate as a constant output as long as buttons I & II are held pressed. (For Sunroof or Window close). **AUX3** (**TRUNK**) operates only when Ignition is **OFF** or when the vehicle is running under remote control.
2	**BROWN**	**(–) Lock output**	Programmable 500 mA negative output: 7/10-sec. or 4-sec. pulse.
3	**GREEN**	**(–) Unlock output**	Programmable 500 mA negative output: 7/10-sec., 4-sec. or double 1/4-sec. pulse.
4	**WHITE / BROWN**	**(–) Arm output**	Max. 500-mA ground signal when the Doors are locked by remote. This wire will go to ground 1/4 sec. before the **LOCK** pulse and go off 1/8 sec. after **LOCK**. It must be connected to the OEM Arm wire (usually the Door Pin). **Note**: The system also gives a Rearm pulse on this wire after remote-start shutdown.
5	**WHITE / GREEN**	**(–) Disarm output**	Max. 500-mA 1-sec. ground pulse when the Doors are unlocked by remote control. Connect to the OEM Disarm wire of the vehicle.

			Note: The system also gives a Disarm pulse on this wire before remote start.
6	**BLUE / WHITE**	**(–) L.E.D. output**	2 V L.E.D.
7	**WHITE / ORANGE**	**(–) Starter Kill (Armed output)**	The unit is equipped with a selectable **passive-** or **active-arming Starter Kill** circuit that will immobilize the vehicle when the system is armed. This wire will provide a constant 500-mA negative output when the system is **armed** (locked by remote) or if remote started. This wire should be connected to a Single Pole Double-Throw Relay (This wire will connect to Pin 85, on the Relay, and Pin 86 will be connected to the Ignition wire). A second benefit of the Starter Kill is the Anti-Grind feature. When the vehicle has been remote started the Anti-Grind prevents the starter motor from re-engaging when the ignition key is inserted in the I**gnition switch** and accidentally turned to the **CRANK** position (The Starter Kill output becomes active during remote starts).
8	**ORANGE**	**(–) Parking Light output**	Negative Parking Light output.
9	**PURPLE**	**(–) External Trigger input**	The External Trigger wire can be used for remote-starting the vehicle with an external device. When the vehicle is running, triggering this input will activate Idle Mode. The External Trigger wire can also be used to operate as a negative trigger with the Trunk Pin-switch, the Key Sense wire or the Door Pin-switch: **Option 1** ***Connects to Negative Trunk Pin.*** When this wire is programmed for **TRUNK PIN**, pressing **I & II** simultaneously will activate a 1-second **DISARM** output. If ground (-) is detected on the **TRUNK PIN** (the Trunk has been opened), an **ARM** pulse will be sent 5 seconds after the Trunk is closes. An **ARM** pulse will be sent 4 seconds after buttons **I & II** are pressed if the Trunk pin state is unchanged (The Trunk was unopened). **DISARM** is sent only if the system was previously locked and armed. **If Secure Lock is enabled, UNLOCK pulse(s) will be sent with DISARM, a LOCK pulse and a REARM pulse will be sent when the Trunk is closed or if the Trunk was left closed.** **Option 2 (Default: Engine Start/Stop):** The first Ground (-) pulse on this input will start the Engine, the second Ground (-) pulse on this input will stop the Engine. **Option 3 (Key Sense (-) Input):** ***Connects to OEM Key Sense Wire.*** When the Key is detected in the Ignition Switch (Ground (-) signal on the OEM Key Sense Wire) the Starter Kill will not **ARM** even when it is set to Passive Mode. If Secure Lock is programmed, **LOCK** and **ARM** will not be activated while the Key Sense input is active ("active" meaning there is a key in the

			Ignition barrel). **Option 4 (Smart Ignition Re-Lock):** ***Connects to the Negative Door trigger Input.*** When the Ignition Lock Option or the Lock Only Option is enabled: after the Brake Pedal is pressed and after a Door has been opened and closed, the Doors will **RE-LOCK**.
10	**WHITE**	**(–) Ground Out When Running**	This is a 500-mA constant ground output active when the vehicle is running under a remote start. The output becomes active at the same time as Ignition and becomes inactive when the Module shuts down (i.e.: run time has expired or button II is pressed, etc.). The output can be used to activate external relays, bypass kits, etc. **CAUTION!** If multiple relays or modules are connected to the Ground Out wire, ensure that they are all diode isolated in order to avoid feedback and damaging the vehicle.
11	**GRAY**	**N/A**	This pin is not used – leave empty.
12	**YELLOW**	**(+) Glow-plug input**	This positive input will monitor the Glow Plug Light in Diesel Mode: it will wait until the Glow Plug Light goes out to crank the Engine. Connect to the side of the Glow Plug Light that is positive when the Light is on. **Note**: In Diesel Mode there is a 18-sec. crank timing delay (or approximately 25-sec. if the run time is set to 30 min.): if the Glow Plug Light is still on after the delay expires, the Module will proceed to start the Engine. (Also known as the "wait-to-start light".) The purpose of the Glow-plug circuit on diesel vehicles is to pre-heat the Combustion Chamber before the vehicle is started. When a Remote Starter is installed on a diesel vehicle, the Glow- plug section of the Ignition circuit must be activated and allowed to operate before the vehicle is remote-started. For that purpose, the Glow-plug input wire of the Module must be connected to the Glow-plug indicator light of the vehicle. The Module will only accept positive Glow-plug input signals, if the signal is negative, use a relay to invert its polarity. A diode must be added between the negative Glow-plug trigger on the relay and the negative Glow-plug wire of the car. This is to prevent feedback effects on the Glow-plug indicator light on the instrument cluster: the light on the dash would come on because of the feedback, even though the circuit is off. **When the user remote-starts the vehicle:** The Module will power up the Ignition circuit and wait to engage the Starter Motor while the Glow-plug indicator light is still on. The Module will engage the Starter Motor as soon as the Glow-plug light (+) goes out. • **Minimum waiting** time is 3 seconds. • **Maximum waiting** time is 25 seconds (approx). If no Glow-plug wire is found on the vehicle, the Glow

12	**YELLOW**	**(+) Glow-plug input (Cont.)**	-plug input on the Module may be "timed out". The Module will power up the Ignition and Glow-plug circuits and simply wait for the time-out before starting: Connecting the Glow-plug input wire of the Module **to Ignition** will hold the ignition **ON** for the maximum waiting time (25 sec., recommended). Keeping the Glow-plug input wire of the Module **unconnected** will hold the ignition **ON** for the minimum waiting time (3 sec., not recommended in very cold environments). Connect the Glow-plug wire to the Ignition wire only after Tach has been programmed (i.e.: Connecting the Glow-plug wire is one of the very last steps in the installation process

Flashing the Hood Pin

What is flashing the Hood Pin?

It is a procedure that makes the Module go into the Programming Centre. Once the Module is in the Programming Centre, the Installer has no more than 20 seconds to get into one of the sub-menus. **Failure to do so will result in the Module exiting the Programming Centre and the Installer will have to *Flash the Hood Pin* once more.**

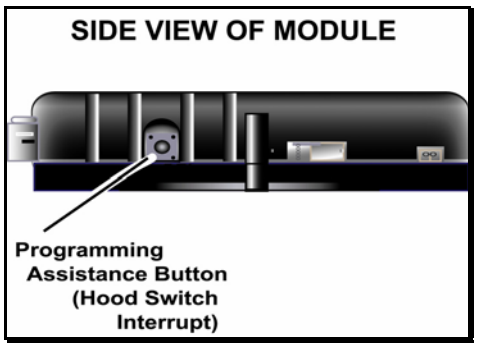
Remember: You can use the Programming Assistance Button instead of the Hood Pin any time the Hood is up.

The Installer …		The Module …
1.	Press and hold the Hood pin for 4 seconds.	
2.	Let go of the Hood Pin.	Parking Lights "ON"
3.	While the Parking Lights are on, press down the Hood Pin once more.	
4.	Release the Hood Pin again.	"ON" for 20 seconds
5.	You now have 20 seconds to select one of the sub-menus.	

Once inside the Programming Centre, the Installer has a selection of many different sub-menus. Once you are in the Programming Centre, you have the option of the following menus:

a) Transmitter Programming …….. p.9
b) Programming Options ……..… p.10
c) Honk Horn Timing* (*if available) ……..… p. N/A
d) Tach Programming ……..…… p.11

Remember: You have up to 20 seconds, once the Parking Lights are on Solid, to select a sub-menu, Failure to do so will result in the Module exiting the Programming Centre and the Installer will have to Flash the Hood Pin once more.



The Programming Assistance Button (a.k.a. PAB.)

The PAB is located on the side of the Module. This push button mimics the Hood-Pin switch in order to avoid having to get out of the vehicle and pressing the Hood-Pin switch. **The PAB will work only when the Hood is up.**

Before Programming a Transmitter

The Transmitter is not delivered pre-programmed: it must be programmed after the wiring of the Module is completed.

The Module has the ability to retain up to 4 different Transmitter codes; if a fifth Transmitter is programmed, the code of the first Transmitter will be erased from memory.

How to Program the Transmitter.

1. **FLASH** the Hood Pin Switch.

Before the 20 seconds have passed, turn the Ignition Key to the **IGNITION ON (RUN)** position and then to the **OFF** position.

2. Press and hold button **I** until the vehicle gives 5 flashes. The Module has stored the Transmitter in its memory.
3. Close the Hood, to exit.

Table 1

How to Enter Programming Options Mode

The System is equipped with two custom Programming Modes, allowing the installer to custom-fit the system according to the requirements of each vehicle. When getting into the Programming Option Mode, the Parking Lights will flash once, twice depending on the option you have entered. The unit will stay in Programming Mode until the Hood Pin-switch or the Brake Pedal is pressed again; therefore take your time to make the proper selection. To return to the Programming Centre (Main Menu), press on the Brake Pedal.

1. **FLASH** the Hood Pin Switch.

Before the 20 seconds have passed,

2. Press and hold the Brake Pedal, then press one of the following buttons on the Transmitter:

   Button **I** to enter Mode 1;

   Button **II** to enter Mode 2.

The Parking Lights will flash once or twice to confirm entry into a mode.

3. Release the Brake Pedal.

Table 2

The Module can only be programmed Function by Function. After selecting a Mode (1 or 2), you will be taken to the first Function of that Mode. After entering an Option selection for Function 1, you will be automatically taken to Function 2, and so on; therefore, be ready

to re-enter all option selections for all functions of the Mode you are accessing. **You may not skip Functions*.**

***NOTE:** Pressing the Brakes at any given moment will save the selection(s) you have entered and will return you to the Programming Center.

For each Function, select one of the three Options by pressing the corresponding button on the Transmitter:

Button	I	for	Option 1,
Button	II	for	Option 2,
Buttons	I & II	for	Option 3.

Table 3

Programming Options

MODE 1 (* indicates default setting)

FUNCTION 1 – Ignition-controlled Door Locks

OPTION 1*	**Ignition-controlled Door Locks DISABLED**
OPTION 2	Ignition-controlled Door Locks **ENABLED**
OPTION 3	Ignition-controlled Door Locks **DISABLED**

FUNCTION 2 – Secure Lock

OPTION 1*	**Secure Lock DISABLED**
OPTION 2	Secure Lock **ENABLE**

FUNCTION 3 – Passive / Active Arming of the Starter Kill

OPTION 1*	**Starter Kill PASSIVE (1-minute timeout.)**
OPTION 2	Starter Kill **ACTIVE**
OPTION 3	Starter Kill **PASSIVE** (3-minute timeout.)

FUNCTION 4 – Lock Pulse Duration

OPTION 1*	**7/10-second LOCK / UNLOCK pulses**
OPTION 2	4-second **LOCK / UNLOCK** pulses
OPTION 3	7/10-second **LOCK** pulse and two 1/4-second **UNLOCK pulses**

FUNCTION 5 – Flashing LED

OPTION 1*	**Enabled**
OPTION 2	Disabled

MODE 2 (* indicates default setting)

FUNCTION 1 – Engine Run Time

OPTION 1	4-minute Run Time in Gas Mode / 9-minute in Diesel Mode.
OPTION 2*	**15-minute Run Time in Gas Mode / 20-minute in Diesel Mode.**
OPTION 3	25-minute Run Time in Gas Mode / 30-minute in Diesel Mode.

FUNCTION 2 – Idle Mode

OPTION 1	Idle Mode **DISABLED**
OPTION 2*	**Idle Mode ENABLED**
OPTION 3	Idle Mode **DISABLED**

FUNCTION 3 – Engine Type – Gas or Diesel

OPTION 1	**DIESEL** Engine Mode (in Cold Weather Mode Run time 20 min).
OPTION 2*	**GASOLINE Engine Mode**
OPTION 3	**DIESEL** Engine Mode

Auto Tach Programming Procedure

NOTE:

If no tach has been programmed and the II button is pressed, there will be no start attempt and the vehicle will give 5 flashes.

If another Tach Programming is required, simply repeat the Auto Tach Programming Procedures.

The Module stores the Tach setting, being ***AutoTach*** or Multi-speed Tach, until the Module is reset.

ONLY if the Module is reset will a new Tach Signal need to be re-programmed.

This process can be carried out instead of the conventional Tach Programming Procedure.

1. Make sure all the connections are done properly and that the Module has been powered-up.
2. With the Hood up (Ground on the Hood Pin line), start the vehicle using the key.
3. Let the Engine reach proper idle speed

The Parking Light output from the Module is activated when the vehicle starts and it will shut off once the Tach signal is detected.

4. Press and hold the Brake Pedal until the Parking Light output from the Module flashes 5 times.
5. Turn the Ignition **OFF**. At this point, the Tach setting has been programmed.

Table 4

Multi-Speed Tach Programming

The system is designed to read a wide range of Tach signals produced by newer Ignition systems. No manual adjustments are necessary. However, you should go through the Tach programming procedure every time a new Unit is installed.

1. **FLASH** the Hood Pin Switch.

Before the 20 seconds have passed.

2. Press and hold the Brake Pedal.
   Press buttons I & II simultaneously on the Transmitter.
   The Parking Lights will flash 4 times.
   Release the Brake Pedal.
3. **Start the vehicle and let it to reach regular Engine-idle speed.**
4. Once the vehicle is idling properly, press and hold the Brake Pedal until the Parking Lights flash five times, release the Brake Pedal: the Tach signal is now programmed.

Table 5

Testing

Before putting back the vehicle together, it is recommended to check that the system operates properly. The following testing procedures should be used to verify proper installation and operation of the system. Before testing, make sure that all connections are soldered and that the unit is plugged in.

1. **Remote-start the Engine and listen for Starter drag.** If the Starter cranks for too long, carry out another Tach learning procedure.
2. **Test Hood Switch shutdown**: with the vehicle running under the Remote Starter, open the Hood; the vehicle should shut down. If it does not shut down, check the Hood Pin-switch and its connector.

3. **Test the Brake shutdown circuit**: With the vehicle running under the Remote Starter, press and release the Brake Pedal. The Engine should shut down immediately. If the Engine continues to run, check the Brake Switch connection.
4. **OEM Alarm Control:** Make sure the Module is able to arm and disarm the OEM Alarm (if applicable).
5. **Door Locks and Trunk Testing:** Make sure each of these options respond to the Transmitter (if they were installed).
6. **Starter Kill option:** Sit inside the vehicle with all the Doors closed. Arm the vehicle and then try to start the vehicle with the key –it should not start. If the vehicle starts, rewire the starter kill so it functions properly.
7. **Valet Mode:** Make sure the Module is able to enter and exit Valet Mode properly. When setting the Module into Valet mode pressing button **I** will lock the Doors but will not activate the Starter Kill. (Refer to User Guide for more information on Valet Mode)
8. **Idle Mode:** Make sure the vehicle properly goes into Idle Mode.

Most comebacks are the result of misunderstandings about how a product works or performs. Take the time to properly explain all functions and features to the customers before they leave the premises. Doing this will save time and money.

Closing Up

Use tie-wraps or screws to properly secure the Module and keep the wiring away from any moving parts such as the Parking Brakes or Steering Column Shafts. Mount all switches in good and accessible locations where they do not risk getting kicked or hit accidentally. Any under hood wiring should be split loomed and tie strapped away from moving parts and heat sources.

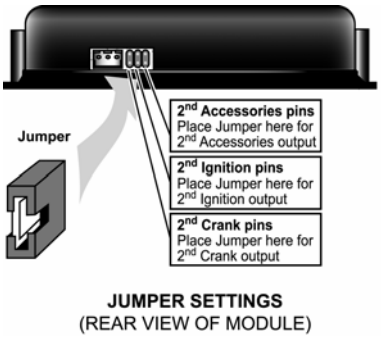
Always make all your connections before plugging in the Module. Keep in mind to plug the fuses as **the last step before the initial powering of the Module**. Be sure to test all functions properly before closing up the installation.

Make sure the Warning Label is applied on a visible place under the Hood.

Supplementary Information

The following features can be programmed according to the user's needs and the requirements of the installation.

Fifth Relay Output (2nd Ignition or 2nd Accessories or 2nd Crank Output)


Jumper
2nd Accessories pins
Place Jumper here for 2nd Accessories output
2nd Ignition pins
Place Jumper here for 2nd Ignition output
2nd Crank pins
Place Jumper here for 2nd Crank output
JUMPER SETTINGS
(REAR VIEW OF MODULE)

The Module comes equipped with a high-current programmable 5th relay which can be used to power a 2nd Ignition, Accessory, or Crank Wire.

The Unit uses three sets of pins. Each set of pins has a function. To activate one of the three possible 2nd outputs, place the Jumper (supplied) on one of the three sets of pins and connect the green 14 AWG wire either to the 2nd Ignition wire, to the Accessories wire or to the Crank wire of the vehicle.

Note: Only one set of pins can be used at a time.

Caution: The relay output rating on this Unit is 25 A at most. Defective OEM solenoid switches can sometimes draw up to 50 or 60 A, causing the 30 A fuse to blow. Always check your circuit with a proper measuring device.

Ignition-controlled Door Locks

(OFF – by default.) This feature will automatically lock all Doors as soon as the Key is turned to the **IGNITION ON (RUN)** position and the Brake Pedal is pressed. When the Ignition Key is turned to the **OFF** position, the Doors will automatically unlock.

Secure Lock

(OFF by default.) This feature allows the Module to control certain OEM factory Alarm systems that use the factory Lock wire to **arm** the Alarm and the Unlock wire to **disarm** it.
If Secure Lock is disabled (Option 1), the Module will still disarm before remote-starting the vehicle. If Secure Lock is enabled (Option 2), upon receiving a remote **START** signal the Module will **UNLOCK** the Doors (disarming the factory Alarm); 1/2 sec. after remote start it will **re-lock** the Doors. 4 seconds after shutdown, Secure Lock will **re-lock** all Doors once more (**arming** the system again). **Please note** that most OEM systems will **not** rearm the Alarm while the Engine is running, but **will** lock the Doors.

Passive or Active Arming Starter Kill

(Passive with a 1-min. timeout – by default.) The Starter Kill can be programmed to be **active** (**will not** arm automatically) or **passive** (**will** arm automatically). In Passive Mode, you can program it to arm automatically after 1 or 3 min.

To **disarm** the Starter Kill in Active or Passive Mode, the user must press and hold button I (or enable Valet Mode). The Parking Lights will flash twice. If the Door Locks option was installed, this will also unlock the Doors.

To **arm** the Starter Kill in Active or Passive Mode, the user must press and hold button I. The Parking Lights will flash once. (If the Door Locks option was installed, this will also lock the Doors). In Passive Mode, the system will automatically arm itself 1 or 3 minutes after the Engine is shut down.

Lock Pulse Duration

(7/10th sec. LOCK and UNLOCK – by default.) The Door Lock pulse duration can be programmed to give 7/10-sec. **LOCK** and **UNLOCK** pulses (by default), 4-sec. **LOCK** and **UNLOCK** pulses, or for a 7/10-sec. **LOCK** pulse and two 1/4 -second **UNLOCK** pulses (used for double-pulse disarm/unlock systems).

Engine Run Time

(4 / 15 / 25 min. – by default.) In **GAS** mode the Module can be programmed to keep the Engine running for 4, 15 (default), or 25 minutes. In **DIESEL** mode the Module can be set to 9, 20 (default) or 30 min.

Idle Mode

(ON – by default.) When programmed, this option allows the user to engage the remote starter to take over the vehicle while it is already running. This option will keep the vehicle running for the pre-programmed run time, or until it is shut down.

Resetting the Module (without the plug-in valet)

Resetting the Module is not a required process. Most of the time, you can avoid resetting the Module by fixing the issue directly at the root of the cause.

To reset the Module, without using the plug-in Valet button:

1. **FLASH** the hood pin switch.
2. In ten seconds or less, press the Brake Pedal six times.
3. The Parking Lights will flash 8 times confirming the Reset.

Table 6

On some vehicles, such as, BMW, and certain Volkswagens, etc., pressing the Brake pedal without the key in the Ignition **ON** position, will not work and therefore you will need to *hot wire* the brake Pedal–manually jumping 12Volts, with a fused test lead, at the Brake Pedal switch.

Resetting the Module (with the use of the plug-in valet)

The system is equipped with a reset function that allows the installer to erase all Transmitter codes and return all programmed Options to the factory default values.

To reset the Module:

1. **FLASH** the Hood pin switch.
2. Press the Valet Button (if the plug-in valet was installed) 6 times or more, until the Parking Lights start to flash.
3. The Parking Lights will flash 8 times confirming the Reset.

Table 7

Troubleshooting Poor Transmitting Range

In order to ensure optimal range, the antenna should be installed at least 7.5 cm (3 in.) from the roof – 2.5 cm (one inch) below the tint strip is generally the best location. Install the antenna as far as possible from radio antennas, GPS, Onstar or factory compasses.

Many factors may affect the operating range of the transmitter. Some of these are:

- The condition of the battery in the transmitter.
- The operating environment (for example: downtown radio-frequency noise, airports, cellular phone towers…)
- Metal: any type of metal will affect operating range. This includes the metal in the car.
- The shape of the vehicle can affect range as well; vans in general have an especially poor range.
- The shape of the roof and A-pillars brings about considerable radio-frequency deflection (in this case the signal from the remote control). As a result, the direction in which the vehicle is facing in relation to the remote control can affect the range. Straight on – standing in front of the vehicle – generally gives you the greatest range; the second best performance is from the back. Using the remote control from either side of the vehicle will usually give the lowest range.
- The range will be significantly lower in a crowded parking lot than in open space.
- Always hold the transmitter high, approximately at shoulder height. Holding the transmitter against your chin will also increase your range: your head acts as an antenna.
- The operating range will be somewhat lower on vehicles equipped with an aftermarket or factory alarm.
- Windows and windshields tinted with lead or metallic tints will decrease the operating range.
- The antenna cable may have been cut and/or is grounded out on the chassis. Try using another cable.
- The receiver may be faulty. Try replacing it with another.